REMARKS

In response to the above-identified Office Action, Applicants amend the application and seek reconsideration thereof. In this response, Applicants amend Claim 21. Applicants cancel Claims 1-20 and add new Claims 31-45. Accordingly, Claims 21-45 are pending.

I. Claims Rejected Under 35 U.S.C. § 102

Claims 1, 2, 3, 16, and 20 are cancelled. Accordingly, it is respectfully requested that the rejection to these cancelled claims be withdrawn.

II. Claims Rejected Under 35 U.S.C. § 103

Claims 21-24 are rejected under 35 U.S.C 103(a) as being obvious over Parekh et al., US 6,468,859 ("Parekh") in view of Oh et al., US 6,700,153 ("Oh"). Applicants traverse the rejections for following reasons.

Amended Claim 21 recites the step of:

"forming an inter-layer insulating layer on a substrate;

forming a storage node contact connected to the substrate by passing through the inter-layer insulating layer;

forming a storage node supporting layer on the inter-layer insulating layer in a manner that an insulating layer is inserted into a space between a first etch barrier layer and a second etch barrier layer;

forming a storage node oxide layer on the second etch barrier layer;

forming a storage node hole exposing the storage node contact by etching the first and the second etch barrier layers, the insulating layer, and the storage node oxide layer; and

forming a cylindrical storage node electrically connected to the storage node contact."

Applicants submit that neither Parekh nor Oh, separately or in combination, teaches or suggests the layered structure as claimed. Referring to Fig. 8D of Applicants' specification, a multi-layered insulation supporting element 75A, 76, and 75B includes a first etch barrier layer, an insulating layer, and a second etch barrier layer. The layers 75A, 76, and 75B are formed between an inter-layer insulation layer 72 and a storage node oxide layer 77A and 77B to thereby support a storage node 79. By contrast, Parekh does not teach or suggest any structure corresponding to the first and second etch barrier layer, the insulating layer, and the storage node oxide layer as claimed. The process disclosed in FIGs. 1-7 of Parekh at most teaches forming a storage node contact hole by removing the upper portion of a contact plug 40 in order to support a storage node 58.

Oh does not cure the defect of Parekh. Oh discloses a nitride layer 120 between an inter-layer insulation layer 100 and a storage node oxide layer 138 (FIG. 11). However, the nitride layer 120 of Oh is a single layer. The single layer cannot possibly teach or suggest the multi-layered insulation supporting element 75A, 76, and 75B which includes a first etch barrier layer, an insulating layer, and a second etch barrier layer as claimed.

Thus, Parekh in view of Oh does not teach or suggest each of the elements of Claim 21. Accordingly, reconsideration and withdrawal of the anticipation rejection of Claim 21 are respectfully requested.

Claims 25-27 and 30 are rejected under 35 U.S.C. 103(a) as being obvious over Kwok et al., US 6,627,938 ("Kwok") in view of Oh. Applicants traverse the rejections for following reasons.

Kwok discloses a layer 64 and a layer 66 between a layer 68 and an insulative layer 56. Assuming for the sake of argument that Kwok's layer 64, layer 66, layer 68, and insulative layer 56 respectively correspond to the insulation layer 76, the second etch barrier layer 75B, the storage node oxide layer 77A and 77B, and the inter-layer insulation layer 72 as claimed, Kwok fails to disclose a structure corresponding to the first etch barrier layer 75A of Claim 25 (FIG. 3 of Kwok).

Oh does not cure the defect of Kwok. The Examiner characterizes the nitride layer 120 of Oh as the first etch barrier layer 75A of Claim 25 because the nitride layer 120 prevents permeation of the etchant during the inter-layer insulation layer 100. However, Claim 25 recites two etch barrier layers, i.e., the first and the second etch barrier layers 75A and 75B between the inter-layer insulation layer 72 and the storage node oxide layer 77A and 77B. Oh's nitride layer 120 may be characterized as the second etch barrier layer 75B instead of the first etch barrier layer 75A. Oh at most teaches one single etch barrier layer, rather than the two etch barrier layers as claimed. A skilled person would not be motivated to combine Oh with Kwok to produce two etch barrier layers, because both references at most disclose one single barrier layer.

Thus, Kwok in view of Oh does not teach or suggest each of the elements of Claim 25. Accordingly, reconsideration and withdrawal of the anticipation rejection of Claim 25 are respectfully requested.

Since independent Claims 21 and 25 have been shown to be patentable over the reference of record, their dependent claims are at least patentable as dependent on a patentable independent claim. Accordingly, reconsideration and withdrawal of the obviousness rejection of Claims 21-24, 25-27 and 30 are requested.

CONCLUSION

In view of the foregoing, it is believed that all claims now are now in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207 3800.

Respectfully submitted,

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Dated: September 13, 2005

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CERTIFICATE OF MAILING:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on July 7, 2005.

Erin Flynn

Erin Flynn September 13, 2005